

## REMARKS

### SUMMARY OF OFFICE ACTION AND THIS RESPONSE

The Examiner has concluded that Applicants are not entitled to priority benefit of parent Application No. 08/802,130 (“the ‘130 application”) (now U.S. Patent 5,912,319) for claims 22-27 and 31-36. The Examiner further contends that, in the absence of priority benefit, U.S. Patent No. 6,525,168 (“the ‘168 patent”) “to Zook *et al.* and Application No. 10/368,135 (“the ‘135 application”) also to Zook *et al.*, are prior art against Applicants’ claims, and all of Applicants’ claims have been rejected as obvious over the ‘168 patent or the ‘135 application.

Only a single claim, claim 25, has been amended, and the amendment merely corrects an unintended typographic error, replacing “alkyleneoxy” with “alkylene,” in view of the fact that claim 25 depends from and is narrower than claim 22, and the R<sup>2</sup> group in claim 22 may only be one of C<sub>2-5</sub> n-alkylene and C<sub>6-8</sub> cycloalkylene. Applicants have also added three new claims, 41 and 42, which respectively depend from claims 22 and 31, and claim 43, which is similar to previous claim 35. No new matter is introduced by these new claims because support can be found in various places in the specification, at least at page 7, lines 25-28 (“Preferred divinyl ethyres include those compounds ... in which m is an integer from 1 to 4. More preferably, m is an integer from 2 to 4”); page 8, lines 1-3 (“m in formula V can also take on rational number values between 0 and 10.0; preferably between 1.0 and 10.0; very preferably between 1.0 and 4.0, particularly between 2.0 and 4.0.”); page 13, lines 12-29 (R<sup>2</sup> denotes a C<sub>2-10</sub> n-alkylene, C<sub>2-6</sub> branched alkylene, ... m is an independently selected rational number from 1 to 50....”), and page 14, lines 17-28 (“In a preferred embodiment, R<sup>1</sup>=-[(CH<sub>2</sub>)<sub>p</sub>-X]<sub>q</sub>-(CH<sub>2</sub>)<sub>r</sub>-, wherein p=2, X=O, q=2 and r=2, R<sup>2</sup> is ethylene group, m=2 and n is about 9.”). Accordingly, claims 22-27, 31-36 and 41-43 are presented for examination.

In this response, Applicants seek to resubmit a Suggestion of Interference pursuant to the newly enacted Rules of Interference, 37 C.F.R. 41.202, in addition to addressing the Examiner's concerns regarding the priority claims and the alleged obviousness over the references. Applicants believe that this re-submission is necessary for two reasons: (1) the new Rules, adopted on September 13, 2004, came into effect after Applicants' last Request for Interference, under old rule 37 C.F.R. 1.607, filed on February 25, 2004; and (2) the new submission may help to further illustrate the presence of an interference-in-fact, which in turn supports Applicants' traversals to both the priority objections and the obviousness rejections.

For clarity and structural succinctness, Applicants present the Request for Interference first, before addressing the Office's rejections and objections, because the former sets forth substantial evidence that the instant application claims an invention that is patentably indistinct if not identical what has been claimed by the Applicants of the '135 application and the '168 patent. Following the Suggestion for Interference, Applicants traverse the Office's priority objections on the ground that the priority was claimed here to establish an earlier constructive reduction-to-practice date relative to a patent and an application claiming the same inventions as what Applicants have done, rather than to avoid an intervening prior art. Support found in the parent application, on which the priority is claimed, is sufficient for this purpose. Then, Applicants traverse the obviousness rejections on two grounds. First, the instant claims are directed to an otherwise patentable invention that is the same as the invention claimed by the references. Therefore, these references should be subject to an interference proceeding with the instant application rather than being used as prior art for obviousness purposes. Second, an interference proceeding, rather than a 37 C.F.R. 1.131 oath, should be used to overcome these references not commonly owned but claiming the same invention.

**SUGGESTION OF INTERFERENCE PURSUANT TO 37 C.F.R. 41.202**

Aside from the issues presented by a patent and an application claiming the same invention as Applicant, the pending claims in this application (claims 22-27, 33-36 and 41-43) are allowable. Therefore, Applicants submit this Suggestion of Interference and respectfully request that the Office declare an interference among the present application, the '168 patent and the '135 application. To facilitate the Examiner's consideration of this matter, the information required is set forth under headings that correspond to the subsections of Rule 41.202.<sup>1</sup>

**1. Identification of Patents and Application Claiming Interfering Subject Matter**

The patent that interferes with the subject matter claimed in the present application is:

- U.S. Patent 6,525,168, which issued on February 25, 2003, to Zook *et al.* for "Chemically Resistant Polythioethers and Formation Thereof."

The application that interferes with the subject matter claimed in the present application is:

- U.S. Application S.N. 10/368,135, which was published on July 10, 2003, under Publication No.: US 2003/0130480, to Zook, *et al.* for "Chemically Resistant Polythioethers and Formation Thereof."

**a) Interfering Subject Matter**

"An interference exists if the subject matter of a claim of one party would, if prior art, have anticipated or rendered obvious the subject matter of a claim of an opposing party and *vice*

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<sup>1</sup> The Rules of Patent Interference under 37 C.F.R. 41.200, *et seq* were adopted on September 13, 2004, several months after Applicants filed their last Amendment/Request for an Interference, on February 25, 2004, under the old rule 37 C.F.R. 1.607. Because of this interim change, Applicants re-submit their request for an interference in a format that complies with the newly adopted rules.

*versa.*" 37 C.F.R. 41.203(a). Not only must two or more parties be asserting claims that are unpatentable over one another, each party must present a claim that is drawn to subject matter that is, subject to the outcome of the interference, patentable to that party. 37 C.F.R. 41.202(c). Indeed, in evaluating a request for interference, the Office determines whether the inventions claimed by the allegedly interfering applications and patents are so similar that it would be improper to merely reject the later-filed claims for obviousness or anticipation. If the Office finds such a level of similarity or identity, an interference should be declared to resolve "who invented first" and "who should be awarded the exclusive rights to an invention."

Under the present interference rules, a two-way test is applied in determining the presence of interfering subject matter. Specifically, the claimed invention of each party must anticipate or render obvious the claimed invention of the other party for an interference-in-fact to exist. Claims in different applications or patents may be directed to an interfering subject matter even if they are not identical, and even claims that do not overlap can be directed to interfering subject matters. *See Patent Interference Proceedings and the accompanying supplemental information, published as 49 F.R. 48416 on December 12, 1984.*

The two-way test for an interference-in-fact may be applied in two steps to the situation here. Step 1, assuming that the claims of the '168 patent and the '135 application are prior art over the claims of the instant '389 application, and determining whether the claims of the '168 patent and the '135 application render the instantly claimed invention unpatentable for anticipation under 35 U.S.C. § 102 or obviousness under 35 U.S.C. § 103. Step 2, assuming that the claims of the instant '389 application are prior art, and determining whether they render the claims of the '168 patent and the '135 application unpatentable for anticipation or obviousness. These two steps can be taken in tandem, but if the answer after both is yes, then there is an

interference-in-fact, and an interference should be declared so that the Office may be assured that two patents don't issue on the same invention. *See Winter v. Fujita*, 53 U.S.P.Q.2d 1234, 1243 (Bd. Pat. App. & Int. 1999).

***(1) The claimed inventions of the '168 patent and the '135 application render claims of '389 application obvious.***

In this Office Action, the Examiner rejected claims 22-27 and 31-34 under 35 U.S.C. § 103(a) as being allegedly obvious and unpatentable over the '168 patent. For the same reasons, the Examiner also rejected instant claims 35-36 as being unpatentable over the '135 application. *See* Office Action, at page 3, 18-21. Referring back to the Applicants' remarks in the last Amendment/Request for Interference, the Examiner made this rejection on the ground that although the '168 patent and the '135 application "do not disclose the claimed formula with so many variations," they "disclosed the same or similar formulae to form the same or similar products of the claimed formula." *See* Office Action, at page 4, lines 1-4. The Examiner also stated that "Applicants have demonstrated . . . how to arrive at the claimed formulae from the teachings of the references (*see* Remarks, pages 22-31)." *See* Office Action, at page 4, lines 5-6. At pages 22-31 of Applicants' previous Amendment/Request for Interference, they compared: (a) claims 1-6, 8 and 10-13 of the '168 patent with Applicants' claims 22-27 and 31-34; and (b) claims 9 and 10 of the '135 application with Applicants' claims 35 and 36. The Examiner's comment in the present Office Action suggests a recognition that Applicants' claims are directed to the same invention as the claims in the '168 patent and the '135 application. The first prong of the two-way interference-in-fact test is therefore satisfied.

***(2) The claimed invention of the '389 application renders obvious or anticipates claims 1-6, 8, and 10-13 of the '168 patent***

As explained in detail at pages 22-28 of the previously filed Amendment/Request for Interference, which is incorporated herein by reference, Applicants' claim 22 is substantially the same as claims 1 and 6 of the '168 patent, while Applicants' claims 23-27 and 31-34 are substantially the same, respectively, as claims 2-5, 8 and 10-13 of the '168 patent. Clearly, Applicants' claims define the same invention as those of the '168 patent. Moreover, Applicants' claims are generally narrower than the corresponding claims of the '168 patent. In this regard, note particularly new claims 41 and 42. These claims are totally subsumed within, respectively, claims 1 and 10 of the '168 patent.

A species anticipates a claim to a genus. *See* M.P.E.P. § 2131.02. Further, a species falling within a genus would always render the genus unpatentable for obviousness. *See Eli Lilly & Co. v. Bd. of Regents Univ. of Washington*, 334 F.3d 1264 (Fed. Cir. 2003), *reh'g & reh'g en banc denied* (Oct. 15, 2003) *cert. denied* (Mar. 29, 2004). Therefore, those embodiments claimed by Applicants, which are species (e.g., claim 41) falling within the genera claimed by the '168 patent (e.g., claim 1) would render the '168 patent claims unpatentable for anticipation or obviousness.

***(3) The claimed invention of the '389 application renders obvious or anticipates claims 9-12 of the '135 application***

As explained in detail at pages 28-30 of the previously filed Amendment/Request for Interference, which are incorporated herein by reference, claims 35 and 36 of the present application are substantially the same as claims 9 and 10 of the '135 application. Whilst similar to Applicants' prior claim 35 and claim 9 of the '135 application, new claim 43 more narrowly defines the polythioether polymer, *i.e.*, the polymer of claim 41. Without doubt, Applicants' claims 35 and 41 render obvious or anticipate claim 9 of the '135 application, while Applicants'

claim 35 anticipates or renders obvious claim 10 of the '135 application. The limitations in Applicants' claims are very similar to, or narrower than, the limitations in claims 9 and 10 of the '135 application.

Applicants have not presented claims that specifically correspond to claims 11 and 12 of the '135 application. Nevertheless, these claims are not patentably distinct from Applicants' claims 35, 36, and 43. Claims 11 and 12 of the '135 application merely recite, respectively, that the filler comprises microspheres or an amorphous material. Fillers of microspheres or amorphous material are well known in the art. Indeed, Applicants' specification specifically refers to using silica as a thixotrope (at page 21, lines 23-24). And as the specification of the '135 application acknowledges, at paragraphs 0025-26, silica in amorphous or microsphere form are suitable fillers.

***(4) Applicants' claims 22-27, 31-36 and 41-43, claims 1-6, 8 and 10-13 of the '168 patent, and claims 9-12 of the '135 application constitute interfering subject matter***

As mentioned above in subsection (1), the Examiner, in rejecting Applicants' claims, has recognized that the first prong of the two-way test for interference-in-fact has been met. Specifically, Applicants' claims 22-27 and 31-34 are unpatentable over the claims in the '168 patent and Applicants' claims 35 and 36 are unpatentable over claims 9-12 of the '135 application.

As demonstrated above in subsections (2) and (3), Applicants' claims 22-27, 31-34 and 41-42, render obvious or anticipate claims 1-6, 8 and 10-13 of the '168 patent. Similarly, Applicants' claims 35, 36 and 43 anticipate or render obvious claims 9-12 of the '135 application. Thus, the second prong of the two-way test of interfering subject matter is also met.

## **2. Proposed Count and Claims Corresponding to the Count**

Applicants presented in the last Request for Interference, dated February 25, 2004, a proposed count 1, which linked the two broadest corresponding claims from the present application and the '168 patent by an "Or." To expedite an interference, Applicants present herein an alternative count 1, which duplicates the newly added dependent claim 41. Applicants also add a second proposed count, which is directed to the curable composition claims in the instant application and the '135 application. These proposed counts are listed in Appendix A.

According to 37 C.F.R. 41.207(b)(2), claim correspondence is a one-way test in that "[a] claim corresponds to a count if the subject matter of the count, treated as prior art to the claim, would have anticipated or rendered obvious the subject matter of the claim." Using this standard, Applicants now correlate the pending claims of the instant application, the issued claims in the '168 patent and the pending claims of the '135 application with the proposed count 1, alternative count 1, and count 2.

### **a) Claims Corresponding to Proposed Count 1**

#### ***(1) The present '389 application***

Applicants' claims 22-27, 31-34 and 41-42 correspond to proposed count 1. Proposed count 1 is patentably indistinct from the invention recited by generic claims 22 because count 1 anticipates, and indeed duplicates, the language of claim 22. Claims 23-27 and 41 all depend directly or indirectly from claim 22. Although narrower, none of these claims, in the absence of

unexpected results or other objective evidence of patentability<sup>2</sup>, are believed to be separately patentable from claim 22.

Claim 31 parallels the language of claim 22, except for the inclusion of the parameters B and z. The inclusion of B and z, however, does not change the fact that proposed count 1 renders claims 31 obvious. At the time of the '389 invention, it would have been routine to a skilled person to link the polythioether of claim 22 with a z-valent group of a polyfunctionalizing agent and elongate the chain by repeating the polythioether units. *See, e.g.*, specification, at page 17, lines 13-19 (listing polyfunctionalizing agents used in the manufacturing of other like polymers, such "trimethylpropane trivinyl ether, and the polythiols described in U.S. Pat. No. 4,366,307; U.S. Pat. No. 4,609,762 and U.S. Pat. No. 5,225,472" and stating that "[p]olyfunctional agents having more than three reactive moieties (*i.e.*,  $z > 3$ ) afford 'star' polymers and hyperbranched polymers."). It also "is known to those skilled in the art" that "[f]unctionally ...[is] affected by factors such as stoichiometry." *See, e.g.*, specification, at page 17, lines 29-30.

Claims 32-34 and 42 depend directly or indirectly from claim 31. Proposed count 1 would likewise render these dependent claims obvious. Although these claims are narrower than the claim 31, in the absence of unexpected results or other objective evidence of patentability, they are not believed to be separately patentable.

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<sup>2</sup> It is settled law that "when the general conditions are disclosed in the prior art, it is not inventive to discover the optimum or workable range by routine experimentation." *In re Aller*, 105 U.S.P.Q. 223 (C.C.P.A. 1955); *In re Boesch*, 205 U.S.P.Q. 215 (C.C.P.A. 1980). Thus, if the claimed range falls within what is disclosed in the prior art, or only represents a slight modification thereof, unless there is evidence that the claimed range produces new and critical results that are different in kind and not merely in degree from the results in the prior art, the claims are obvious. *See Aller*, at 235; *Boesch*, at 219.

***(2) The '168 patent***

Claims 1-8 and 10-13 of the '168 patent correspond to proposed count 1. Claim 1 is anticipated by count 1 because it duplicates the language of proposed count 1. Dependent claims 2-7, although narrower, do not define patentability distinct subject matter in the absence of unexpected results. Claim 10 of the '168 patent is directed to a polythioether mixture having a z-valent group of a polyfunctional agent linked to the polythioether formula of claim 1. Proposed count 1 renders claim 10 of '168 obvious because once the polythioether formula of proposed count 1 is known, it is within the knowledge of the skilled person in the art to add the z-valent group to such a formula to make a multi-functional polymer without undue experimentation. *See* the '168 patent specification, at column 2, lines 7-15 (acknowledging as prior art, U.S. Patent No. 5,912,319, which taught the representation of polyfunctional agents using parameters such as B and z at column 7, line 30 to column 8, line 4; column 8, lines 13-36, and elsewhere). Likewise, count 1 renders dependent claims 11-13 obvious in the absence of unexpected properties.

**b) Corresponding to Proposed Alternative Count 1**

***(1) The present '389 application***

Claims 22-27, 31-34 and 41-42 of the present application also correspond to alternative count 1. Because alternative count 1 recites an invention that is a species falling within the subject matter of claims 22 and 41, alternative count 1 anticipates them. Alternative count 1 also recites a species very close in structure to the polymers of dependent claims 23-27. Thus, alternative count 1 also renders obvious these dependent claims, at least in the absence of unexpected properties or other evidence of patentability. Moreover, at the time the '389 application was filed, a person of ordinary skills in the art would have found it obvious to use

parameters such as B and z to introduce and describe polyfunctional agents to the polythioether, claims 31-34 and 42 would thus have been rendered obvious by alternative count 1 as well, at least in the absence of objective evidence to the contrary. *See, e.g.*, specification, at page 17, lines 13-19 (listing polyfunctionalizing agents used in manufacturing other polymers, and stating that “[p]olyfunctional agents having more than three reactive moieties (*i.e.*,  $z > 3$ ) afford ‘star’ polymers and hyperbranched polymers.”).

***(2) The ‘168 patent***

Claims 1-6, 8 and 13 of ‘168 correspond to proposed alternative count 1. Alternative count 1 recites a structure that falls within, or is very analogous to the polymers of claims 1-6 and 8. Further, there is nothing in the ‘168 patent to suggest that the embodiments of claims 1- 6 and 8 represent unexpected or superior results that are out-of-character as compared to what may be expected from what is described by alternative count 1. Claims 10-13 of the ‘168 patent thus correspond to alternative count 1 for the same reason as do Applicants’ claims 31-34 and 42.

**c) Corresponding to Proposed Count 2**

***(1) The present ‘389 application***

Claims 35, 36 and 43 correspond to proposed count 2. Claim 35 comprises the count and is thus anticipated thereby. Dependent claims 36 and 43 recite species within claim 35 and are not believed to be patentable thereover in the absence of objective evidence of unobviousness.

***(2) The ‘135 application***

Claims 9-12 of the ‘135 application correspond to proposed count 2. The count recites claim 9 and thus anticipates it. The remaining dependent claims recite obvious details and are thus unpatentable over the count.

**3. Claim Chart Comparing Interfering Subject Matter**

As required by 37 C.F.R. 41.202(a)(3), claim charts comparing numerous claims of its parties appeared in the previously filed Amendment/Request for Interference. For count 1 and alternative count 1, see pages 21-28 of the previous Amendment/Request for Interference, which is incorporated herein by reference. That claim chart was also accompanied by a detailed explanation of the similarities between the claims of the '168 patent and Applicants' claims. *See also* section 1 of this response, *supra*.

For count 2, see pages 28-30 of the previously filed Amendment/Request for Interference, which is also incorporated herein by reference. *See also* section 1 of this response, *supra*.

**4. Why Applicant Will Prevail on Priority (37 C.F.R. 41.202(a)(4))**

As discussed in Section 5 below, Applicants' prior application 08/802,130 ("the '130 application"), now U.S. Patent No. 5,912,319, filed February 19, 1997, constitutes a constructive reduction to practice for the claimed invention. Accordingly, Applicants should be granted the benefit of this February 1997 date as the date of invention in the interference proceeding for count 1, alternative count 1, as well as count 2.

On the other hand, the '168 patent issued from Application 09/802,427, filed March 9, 2001, which claims priority of and incorporates by reference Provisional Application 60/188,106, filed March 9, 2000. The '135 application is based on the same chain of cases. Even assuming, but not conceding, the '168 patent and the '135 application are entitled to the earliest asserted priority date, *i.e.*, the filing date of the provisional application, the effective filing date for the '168 patent or the '135 application is long after Applicants' February 19, 1997,

effective filing date<sup>3</sup>. Applicants have no reason to believe that the named inventors of the '168 patent or the '135 application will be able to establish a date of invention before Applicants' filing date.

Parties are presumed to have invented interfering subject matter in the order of their effective filing dates accorded for each count. 37 C.F.R. 41.207(a). Thus, by virtue of being entitled to benefit of an earlier filing date for the proposed counts, Applicants should be designated as the Senior Party, and as such, be presumed to have invented the interfering subject matter first.

### **5. Constructive Reduction to Practice**

The instant '389 application claims priority to a series of prior applications. It is a continuation-in-part of U.S. Patent Application No. 08/928,972, filed September 12, 1997, which is a continuation-in-part of now U.S. Patent No. 5,912,319. This application is also a continuation-in-part of U.S. Patent Application No. 09/318,500, filed May 25, 1999, which is a divisional of now U.S. Patent No. 5,912,319, filed February 19, 1997. It further claims the benefit of U.S. Provisional Application No. 60/182,396, filed February 14, 2000 and U.S. Provisional Application No. 60/215,548, filed June 30, 2000.

The earliest application in the chain, the '130 application (or the '319 patent), a copy of which is attached herein as Exhibit 1, constitutes a constructive reduction of the subject matter of the proposed counts. This is because only one adequately described embodiment is required to show a constructive reduction to practice of a particular invention. *See Hyatt v. Boone*, 47

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<sup>3</sup> We note that at least some of the embodiments of the '168 patent are not entitled to claiming the filing date of 60/188,106 for priority, for example, when m is 3 or 4. We also note that none of the claims of the '135 application is entitled to that priority date because the provisional application does not disclose or suggest a curable composition.

U.S.P.Q. 2d 1128, 1131 (Fed. Cir. 1998) (“For an earlier-filed application to serve as a constructive reduction to practice the subject matter of an interference count, the applicant must describe the subject matter of the count in terms that establish he was in possession of the later-claimed invention, including all of the elements and limitations presented in the count, at the time of the earlier filing.”); *see also Hunt v. Treppschuh*, 523 F.2d 1386 (C.C.P.A. 1975) (holding that where there is a proper interference-in-fact, a single adequately described embodiment is adequate for an application to constitute a constructive reduction to practice).

**a) At least one embodiment of proposed count 1 is disclosed by Applicants' parent '130 application**

Applicants described at least one embodiment of all the count 1 elements in their earliest parent application, the '130 application (now the '319 patent), filed on February 19, 1997. As an example, at column 2, lines 23-49, the '130 application disclosed formula I that is substantially similar to the first alternative formula in proposed count 1. To better demonstrate the differences or the lack thereof between what is disclosed in the '130 application and what is described by the proposed count 1, Applicants line up the '130 application formula, as shown at column 3, line 10 of the '319 patent, and the count 1 formula as follows:

**'130** H-S - R<sup>1</sup> || -[S-(CH<sub>2</sub>)<sub>2</sub>] || -O-[-R<sup>2</sup>-O-]<sub>m</sub> || -(CH<sub>2</sub>)<sub>2</sub>- || S-R<sup>1</sup>- || ]n- S-H

**Count 1** H-S - R<sup>1</sup> || -[S-(CH<sub>2</sub>)<sub>p</sub>] || -O-(-R<sup>2</sup>-O-)<sub>m</sub> || -(CH<sub>2</sub>)<sub>q</sub>- || S-R<sup>1</sup>- || ]n- S-H

The elements, R<sup>1</sup>, p, R<sup>2</sup>, m, q and n, are compared side-by-side in Appendix B, Table 1, titled “Side-by-Side Comparison of '130 Disclosures and Proposed Count 1.” *See also* pages 17-21 of Applicants' previously filed Amendment/Request for Interference, which is incorporated herein by reference.

From this line-up and the table, the only apparent difference lies in the fact that the '130 application disclosed a “-(CH<sub>2</sub>)<sub>2</sub>-” on either side of the “O-[R<sup>2</sup>-O]<sub>m</sub>” moiety, while count 1 recites a “-(CH<sub>2</sub>)<sub>p</sub>-” on one side and a “-(CH<sub>2</sub>)<sub>q</sub>-” on the other. But because p in count 1 may be any integer between 2 and 6, the “-(CH<sub>2</sub>)<sub>2</sub>-” in '130 sufficiently described one embodiment of the “-(CH<sub>2</sub>)<sub>p</sub>-” element. Likewise, because q in count 1 may be any integer between 1 and 5, the “-(CH<sub>2</sub>)<sub>2</sub>-” in '130 sufficiently described one embodiment of the “-(CH<sub>2</sub>)<sub>q</sub>-” element. Thus, '130 constitutes constructive reduction to practice for proposed count 1, and Applicants should be deemed to have made the invention of count 1 on February 19, 1997, the day '130 was filed.

**b) At least one embodiment of alternative count 1 is disclosed by the '130 application**

Applicants described at least one embodiment of proposed alternative count 1 in the first filed '130 application, filed on February 19, 1997. The following line-up of the formulae demonstrates the lack of difference between what is disclosed in the '130 application and what is recited by proposed alternative count 1:

**'130**      H-S -R<sup>1</sup> || -[-S-(CH<sub>2</sub>)<sub>2</sub>-] || -O-[R<sup>2</sup>-O-]<sub>m</sub> || -(CH<sub>2</sub>)<sub>2</sub>- || S-R<sub>1</sub>- || ]n-      S-H

**Alternative**

**Count 1**   H-S -R<sup>1</sup> || -[-S-(CH<sub>2</sub>)<sub>2</sub>-] || -O-(R<sup>2</sup>-O-)<sub>2</sub> || -(CH<sub>2</sub>)<sub>2</sub>- || S-R<sup>1</sup>- || ]n-      S-H

The elements, R<sup>1</sup>, p, R<sup>2</sup>, m, q and n, are compared side-by-side in Appendix B, Table 2, titled “Side-by-Side Comparison of '130 Disclosures with Proposed Alternative Count1.” *See also* pages 17-21 of Applicants’ previously filed Amendment/Request for Interference.

From this line-up and the comparison table, it is again apparent that the only difference lies in the fact that m may be a rational number between 1 and 10 in '130 application, while it must be 2, which is undoubtedly one of the rational numbers between 1 and 10, in alternative

count 1. Thus, Applicants should be deemed to have made the invention of alternative count 1 on the filing date of the '130 application.

**c) At least one embodiment of count 2 is disclosed by the '130 application**

Applicants described at least one embodiment of all elements of proposed count 2 in the earliest '130 application (now '319 patent), filed on February 19, 1997. The side-by-side comparison in Appendix B, Table 3, titled "Side-by-Side Comparison of '130 Disclosures and Proposed Count 2" makes this clear. *See also* pages 17-21 of Applicants' previously filed Amendment/Request for Interference. For example, at column 4, lines 36-49, as well as column 12, lines 3-65, the '130 application disclosed the proportions and types of agents that may be included in a curable composition comprising the claimed polythioether. The weight percentage of polythioether, curing agent and filler are all disclosed in the '130 application. *See, e.g.*, specification of the '319, at page 19, lines 11-16; at page 20, lines 3-13.

**6. Claims Added or Amended to Provoke Interference**

Claims 21-27 and 31-36 were presented in the previous Amendment/Request for Interference, filed February 25, 2004. A claim chart meeting the requirements of the current rules was also provided therein, at pages 6-16. For brevity, it is not re-submitted here, but merely incorporated by reference. Support for new claims, 41, 42 and 43 has previously been noted in the Summary section of this paper, at page 6, *supra*.

**7. The Requirements of 35 U.S.C. § 135(b) are Satisfied**

The requirements of 35 U.S.C. § 135(b)(1) have been satisfied in this case. 35 U.S.C. § 135(b)(1) requires that "[a] claim which is the same as, or for the same or substantially the same subject matter as, a claim of an issued patent may not be made in any application unless such a claim is made prior to one year from the date on which the patent was granted." The '168 patent

issued on February 25, 2003. Thus the earliest 35 U.S.C. § 135(b)(1) statutory bar date for this patent is February 25, 2004.

Instant claims 21-27, 31-34 and 41-42 recite the same subject matter as the claims of '168. Among them, 21-27 and 31-34 were presented in Applicants' last Request for Interference, dated February 25, 2004.

Claims 35-36 of the instant application recite substantially the same invention as claims 9-12 of '135. According to 35 U.S.C. § 1.135(b)(2), “[a] claim which is the same as, or for the same or substantially the same subject matter as, a claim of an application published under section 122(b) of this title may be made in an application filed after the application is published only if the claim is made before one year after the date on which the publication is published.” The '135 application was published on July 10, 2003, as Pub. No. 2003/0130480 A1. This will make the bar date August 10, 2004, for an interference request against the '135 application.

Claims 35 and 36 were introduced to the instant application through an amendment in the Request for Interference filed on February 25, 2004, which is almost half a year prior to the 35 U.S.C. § 1.135(b)(2) bar date. Accordingly, the pending claims corresponding to proposed count 1, alternative count 1 and count 2 were all in or added to this application for the purpose of provoking an interference prior to either one year after the date of issuance of the '168 patent, or one year after the publication date of the '135 application.

#### **9. Conclusion of Request for Interference**

In light of the evidence that there exists an interference-in-fact among the instant '389 application, and Zook *et al*'s '168 patent and '135 application. Applicants respectfully request that an interference be declared using the proposed counts set forth in Appendix A.

**REJECTIONS OF THE CLAIMS**

The Examiner, in the Office Action of March 4, 2005, concluded that Applicants were not entitled to benefit of the filing date of parent application '130 (now the '319 patent),<sup>4</sup> filed February 19, 1997. The Examiner asserted that Applicants' claims 22-27 and 31-36 were not adequately supported by the disclosure of the parent case. The Examiner based his position solely on the contention that p and q are only 2 in the parent case whereas the present claims recite 2 to 6 or 1 to 5. Because in his view, Applicants' claims were not entitled to the parent application's February 19, 1997, filing date, the Examiner rejected the '168 patent and the published '135 application, both of which cannot have an effective filing date prior to March 9, 2000.

First and foremost, however, the Examiner's position cannot apply to original claim 24 and to new claims 41-43, all of which require p and q to be 2. Applicants further traverse the rejections on the ground that Applicants are claiming subject matter that interferes with the '169 patent and the '135 application. For this reason, Applicants are deprived of the opportunity to swear back their priority date under the provisions of 37 C.F.R. 1.131(a). Specifically, but for the presence of interfering subject matter, Applicants would have the opportunity to antedate the earliest effective reference date of the '168 patent and the '135 application. But because Applicants are claiming interfering subject matter, an affidavit under 37 C.F.R. 1.131(a) may not be used. *See* 37 C.F.R. 1.131(a)(1) and M.P.E.P. § 715 II. When interfering subject matter is present, an interference proceeding is the proper procedure for resolving the priority issue.

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<sup>4</sup> Applicants note that at page 2, line 3 of the Office Action, the Examiner designated, perhaps mistakenly, the filing date of U.S. Application No. 08/802,130, now U.S. Patent 5,912,319, as "September 19, 1997," rather than the correct filing date of "February 19, 1997."

Moreover, it has been established that relying on the parent or priority case to establish constructive reduction to practice is different from relying on the parent or priority case to overcome non-interfering prior art. A parent application relied upon to avoid non-interfering intervening prior art must support the full scope of the claim. *U.S. Steel Corp. v. Phillips Petroleum Co.*, 865 F.2d 1247 (Fed. Cir. 1989); *In re Gosteli*, 872 F.2d 1008 (Fed. Cir. 1989). But a single adequately described embodiment is adequate for an application to constitute a constructive reduction to practice where there is a proper interfering subject matter. *See Hunt v. Treppschuh*, 523 F.2d 1386 (C.C.P.A. 1975).

Here, the instantly claimed invention is directed to the same subject matter as the one claimed by the '168 patent and the '135 application, and as a result there is an interference-in-fact. Applicants are thus entitled to pursue their entitlement to the claims in issue through an interference proceeding.

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the withdrawal of all rejections and objections. Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Date: August 2, 2005

By:



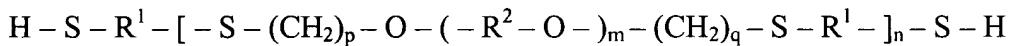
Wenfang Chen  
Reg. No. 52,729

**Exhibit 1:** U.S. Pat. No. 5,912,319, filed February 19, 1997, as U.S. Application 08/802,130

## **APPENDIX A**

### **PROPOSED COUNTS**

1. A polythioether comprising:



wherein

$R^1$  is selected from the group consisting of  $C_{2-6}$  n-alkylene, and a  $-[(-CH_2)_p - X]_q - (-CH_2)_r -$  group;

$R^2$  is selected from the group consisting of  $C_{2-6}$  n-alkylene, and  $C_{6-8}$  cycloalkylene;

$X$  is selected from the group consisting of O and S;

$m$  is an integer between 1 and 10;

$p$  is an integer between 2 and 6;

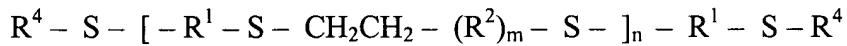
$q$  is an integer between 1 and 5;

$r$  is an integer between 2 and 10; and

$n$  is an integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1,000 and 10,000 Daltons.

**- OR -**

A polythioether comprising:



wherein

$R^1$  is a  $C_{1-10}$  alkyl,  $-(R^3Q)_pR^3 -$  or  $C_{6-C_{20}}$  aryl where Q is O or S,

each  $R^3$  is independently  $C_{1-6}$  alkyl, and

$p$  is an integer between 0 and 6;

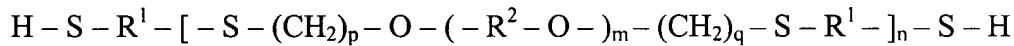
$R^2$  is  $C_{1-6}$  alkyloxy or  $C_{5-12}$  cycloalkyloxy,

$R^4$  is H,  $C_{1-6}$  alkyl,  $C_{1-6}$  alkyl alcohol and  $C_{0-6}$  alkyl substituted with  $-[-CH_2CH_2(R^2)_m -] - X$ , where X is a halogen,

$m$  is an integer between 1 and 4, and

n is an integer selected to yield a molecular weight for said polythioether of between 1000 and 10,000 Daltons.

Alternative Count 1. A polythioether comprising:



wherein

$R^1$  is selected from the group consisting of  $C_{2-6}$  n-alkylene, and a  $-[(-CH_2)_p - X]_q - (-CH_2)_r -$  group;

$R^2$  is  $C_{2-6}$  n-alkylene;

X is selected from the group consisting of O and S;

m is 2;

p is 2;

q is 2;

r is an integer between 2 and 6; and

n is an integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1,000 and 10,000 Daltons.

2. A curable composition comprising:

40 to 80 weight percent of a polythioether polymer according to count 1,

5 to 60 weight percent of a filler and 10 weight percent of a curing agent,

**- OR -**

A curable composition comprising

42 to 80 weight percent of a polythioether polymer according to count 1,

and 0.3 to 15 weight percent of a light weight filler

and 0.1 to 20 weight percent of a curing agent.

**APPENDIX B**

**TABLE 1**  
**Side-by-Side Comparison of '130 Disclosures and Proposed Count 1**

Elements	'130 disclosures	Count 1
R <sup>1</sup>	<ul style="list-style-type: none"> <li>* divalent <u>C<sub>2-6</sub>n-alkyl</u>;</li> <li>* C<sub>3-6</sub> branched alkyl;</li> <li>* C<sub>6-8</sub> cycloalkyl;</li> <li>* C<sub>6-10</sub> alkylcycloalkyl;</li> <li>* <u>-[(-CH<sub>2</sub>-)<sub>p</sub>-X]<sub>q</sub>-(CH<sub>2</sub>)<sub>r</sub></u>; or</li> <li>* <u>-[(-CH<sub>2</sub>-)<sub>p</sub>-X]<sub>q</sub>-(CH<sub>2</sub>)<sub>r</sub></u>, in which at least one -CH<sub>2</sub>- is substituted with a methyl.</li> </ul> <p><i>See, e.g., column 2, lines 26-31.</i></p>	<ul style="list-style-type: none"> <li>* <u>C<sub>2-6</sub>n-alkylene</u></li> <li>* <u>-[(-CH<sub>2</sub>)<sub>p</sub>-X]<sub>q</sub>-(CH<sub>2</sub>)<sub>r</sub></u></li> </ul>
R <sup>2</sup>	<ul style="list-style-type: none"> <li>* methylene</li> <li>* divalent <u>C<sub>2-6</sub>n-alkyl</u></li> <li>* C<sub>2-6</sub> branched alkyl</li> <li>* <u>C<sub>6-8</sub>cycloalkyl</u></li> <li>* C<sub>6-10</sub> alkylcycloalkyl</li> <li>* <u>-[(-CH<sub>2</sub>-)<sub>p</sub>-X]<sub>q</sub>-(CH<sub>2</sub>)<sub>r</sub></u>; or</li> <li>* <u>-[(-CH<sub>2</sub>-)<sub>p</sub>-X]<sub>q</sub>-(CH<sub>2</sub>)<sub>r</sub></u>, in which at least one -CH<sub>2</sub>- is substituted with a methyl.</li> </ul> <p><i>See, e.g., column 2, lines 32-38.</i></p>	<ul style="list-style-type: none"> <li>* <u>C<sub>2-6</sub>n-alkylene</u>;</li> <li>* <u>C<sub>6-8</sub>cycloalkylene</u></li> </ul>
X	<ul style="list-style-type: none"> <li>* <u>Q</u>;</li> <li>* <u>S</u>;</li> <li>-NR<sup>6</sup>-, where R<sup>6</sup> is either H or methyl.</li> </ul> <p><i>See, e.g., column 2, lines 38-40.</i></p>	<ul style="list-style-type: none"> <li>* <u>Q</u>;</li> <li>* <u>S</u>.</li> </ul>
m	<ul style="list-style-type: none"> <li>* <u>rational number from 0 to 10</u></li> </ul> <p><i>See, e.g., column 2, line 41.</i></p>	<ul style="list-style-type: none"> <li>* <u>integer between 1 and 10</u></li> </ul>
n	<ul style="list-style-type: none"> <li>* <u>integer from 1 to 60</u></li> </ul> <p><i>See, e.g., column 2, line 42.</i></p>	<ul style="list-style-type: none"> <li>* <u>integer between 1 and 60</u> selected so that the molecular weight of the polythioether is between 1,000 and 10,000 Daltons.</li> </ul>
p	<ul style="list-style-type: none"> <li>* <u>integer from 2 to 6</u></li> </ul>	<ul style="list-style-type: none"> <li>* <u>integer between 2 and 6</u></li> </ul>

	<p><i>See, e.g., column 2, line 43.</i></p> <p>*<sup>Δ</sup> <u>2</u>, in the repeating “[<chem>-S-(CH2)2-O-[R2-O-]m-(CH2)2-S-R1-]</chem>” unit.</p> <p><i>See, e.g., column 2, line 23.</i></p> <p><sup>Δ</sup> There is no “p” in the repeating unit, but the number “2” is in its position.</p>	
q	<p>* <u>integer from 1 to 5</u></p> <p><i>See, e.g., column 2, line 44.</i></p> <p>*<sup>Δ</sup> <u>2</u>, in the repeating “[<chem>-S-(CH2)2-O-[R2-O-]m-(CH2)2-S-R1-]</chem>” unit.</p> <p><i>See, e.g., column 2, line 23.</i></p> <p><sup>Δ</sup> There is no “p” in the repeating unit, but the number “2” is in its position.</p>	* <u>integer between 1 and 5</u>
r	<p>* <u>integer from 2 to 10</u></p> <p><i>See, e.g., column 2, line 45</i></p>	* <u>integer between 2 and 10</u>
Average MW	<p>* <u>between about 500 to about 20,000.</u></p> <p><i>See e.g., column 2, lines 48-49.</i></p>	* <u>between 1,000 and 10,000 Daltons</u>

\* Underlined - overlapping elements

## APPENDIX B

**TABLE 2**  
**Side-by-Side Comparison of '130 Disclosures with Proposed Alternative Count 1**

Elements	'130 disclosures	Alternative Count 1
R <sup>1</sup>	<ul style="list-style-type: none"> <li>* divalent <u>C<sub>2-6</sub> n-alkyl</u>;</li> <li>* C<sub>3-6</sub> branched alkyl;</li> <li>* C<sub>6-8</sub> cycloalkyl;</li> <li>* C<sub>6-10</sub> alkylcycloalkyl;</li> <li>* <u>-[(-CH<sub>2</sub>-)<sub>p</sub>-X]<sub>q</sub>-(CH<sub>2</sub>)<sub>r</sub></u>; or</li> <li>* <u>-[(-CH<sub>2</sub>-)<sub>p</sub>-X]<sub>q</sub>-(CH<sub>2</sub>)<sub>r</sub></u>, in which at least one -CH<sub>2</sub>- is substituted with a methyl.</li> </ul> <p><i>See, e.g., column 2, lines 26-31.</i></p>	<ul style="list-style-type: none"> <li>* <u>C<sub>2-6</sub> n-alkylene</u></li> <li>* <u>-[(-CH<sub>2</sub>)<sub>p</sub>-X]<sub>q</sub>-(CH<sub>2</sub>)<sub>r</sub></u></li> </ul>
R <sup>2</sup>	<ul style="list-style-type: none"> <li>* methylene</li> <li>* divalent <u>C<sub>2-6</sub> n-alkyl</u></li> <li>* C<sub>2-6</sub> branched alkyl</li> <li>* C<sub>6-8</sub> cycloalkyl</li> <li>* C<sub>6-10</sub> alkylcycloalkyl</li> <li>* <u>-[(-CH<sub>2</sub>-)<sub>p</sub>-X]<sub>q</sub>-(CH<sub>2</sub>)<sub>r</sub></u>; or</li> <li>* <u>-[(-CH<sub>2</sub>-)<sub>p</sub>-X]<sub>q</sub>-(CH<sub>2</sub>)<sub>r</sub></u>, in which at least one -CH<sub>2</sub>- is substituted with a methyl.</li> </ul> <p><i>See, e.g., column 2, lines 32-38.</i></p>	* <u>C<sub>2-6</sub> n-alkylene</u> ;
X	<ul style="list-style-type: none"> <li>* <u>O</u>;</li> <li>* <u>S</u>;</li> <li>* <u>-NR<sup>6</sup>-</u>, where R<sup>6</sup> is either H or methyl.</li> </ul> <p><i>See, e.g., column 2, lines 38-40.</i></p>	<ul style="list-style-type: none"> <li>* <u>O</u>;</li> <li>* <u>S</u>.</li> </ul>
m	<ul style="list-style-type: none"> <li>* <u>rational number from 0 to 10</u></li> </ul> <p><i>See, e.g., column 2, line 41.</i></p>	* <u>2</u>
n	<ul style="list-style-type: none"> <li>* <u>integer from 1 to 60</u></li> </ul> <p><i>See, e.g., column 2, line 42.</i></p>	* <u>integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1,000 and 10,000 Daltons.</u>
p	<ul style="list-style-type: none"> <li>* <u>integer from 2 to 6</u></li> </ul>	* <u>2</u>

	<p><i>See, e.g., column 2, line 43.</i></p> <p><math>*^{\Delta} \underline{2}</math>, in the repeating “[<math>-S-(CH_2)_2-O-[-R_2-O-]_m-(CH_2)_2-S-R_1-</math>” unit.</p> <p><i>See, e.g., column 2, line 23.</i></p> <p><math>^{\Delta}</math> There is no “p” in the repeating unit, but the number “2” is in its position.</p>	
q	<p><math>* \underline{\text{integer from 1 to 5}}</math></p> <p><i>See, e.g., column 2, line 44.</i></p> <p><math>*^{\Delta} \underline{2}</math>, in the repeating “[<math>-S-(CH_2)_2-O-[-R_2-O-]_m-(CH_2)_2-S-R_1-</math>” unit.</p> <p><i>See, e.g., column 2, line 23.</i></p> <p><math>^{\Delta}</math> There is no “p” in the repeating unit, but the number “2” is in its position.</p>	$* \underline{2}$
r	<p><math>* \underline{\text{integer from 2 to 10}}</math></p> <p><i>See, e.g., column 2, line 45</i></p>	$* \underline{\text{integer between 2 and 6}}$
Average MW	<p><math>* \underline{\text{between about 500 to about 20,000.}}</math></p> <p><i>See e.g., column 2, lines 48-49.</i></p>	$* \underline{\text{between 1,000 and 10,000 Daltons}}$

\* Underlined - overlapping elements

## **APPENDIX B**

**TABLE 3**  
**Side-by-Side Comparison of '130 Disclosures and Proposed Count 2**

<b>Elements</b>	<b>'130 Disclosures</b>	<b>Count 2</b>
polythioether	<ul style="list-style-type: none"><li>* from about 30 wt% to about 90 wt%</li><li>* preferably <u>about 40 wt% to about 80 wt%</u></li><li>* very preferably about 45 wt% to about 75 wt%</li></ul> <p><i>See, e.g., column 12, lines 3-7.</i></p>	* <u>40 to 80 wt%</u>
curing agent	<ul style="list-style-type: none"><li>* “The compound polymer was mixed intimately with ... [a] curing agent in the <u>weight ratio of 10:1</u> and cured at ambient temperature and humidity.”</li></ul> <p>Column 19, lines 39-42.</p>	* 10 wt%
filler	<ul style="list-style-type: none"><li>* “Preferably, the composition includes about 5 to about 50 wt.% of the selected filler or combination fillers, very preferably about 10 to 50 wt.%.” Column 12, lines 35-38.</li></ul>	* 5 to 60 wt%

\* Underlined - overlapping elements

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